

**Notice of Allowability**

Application No.

10/587,544

Examiner

Paul Ip

Applicant(s)

YAMAMOTO ET AL.

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed on 12/7/2007.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 12/7/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.



Paul Ip  
Primary Examiner  
AU 2837  
571-272-1941

### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance:

Claims 1-11 filed on 7/28/2006 have been considered in view of the specification and the drawings of this application with respect to the references of the record. The Information Disclosure Statement filed on 12/08/2007 has been considered in view of claims 1-11 with respect to the specification and the drawings of this application. Claims 1-8 are drafted in terms of means plus function. The claims have been interpreted in view of the specification. Nagasaka et al disclose a Stabilization of Dynamic Walk on a Humanoid Using Torso Position Compliance Control, which consists of two different control phases, the real time ZMP compensation control to keep the soles in contact with the ground and the inverted pendulum control to maintain the dynamic balance. Satoshi discloses a Design and Implementation of Remotely Operation Interface for Humanoid Robot. Nagasaka et al and Satoshi disclose the basic concept of controlling humanoid robots using torso position compliance control according to the target position and the actual position of the robots. Nagasaka et al and Satoshi fail to teach storing means for storing leg tip gait data describing a time-series change in a target leg tip motion, storing means for storing torso gait data describing a time-series change in a target torso motion which enables walking following the change in the target leg tip motion, and correction means for determining a correction quantity from the calculated deviation based on a prescribed transfer function, and for correcting the torso gait data stored in the storing means for storing torso gait data based on the correction quantity.

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Claims 9-11 are drafted in terms of a walking control method of a legged robot. The claims appear as data collection and data processing functions. However, the claims include physical elements and post solution such as a legged robot, a target leg tip motion, a target torso motion, an actual torso motion, and instructing the corrected torso gait data to a joint angles computation device of the robot to perform the corrected torso gait data to a joint angles computation device of the robot to perform the method steps in practical use. Accordingly, claims 1-11 are patentable distinct over Nagasaka et al and Satoshi.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Ip whose telephone number is (571)-272-1941. The examiner can normally be reached on Monday to Friday from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571)-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul Ip  
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1/14/2008